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DEVELOPING INFORMATION AND COMMUNICATIVE COMPETENCE IN ORGANIZERS OF SCHOOL EDUCATIONAL PROCESS

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Abstract

The paper considers possibilities of using information technologies to organize learning activities in a general education school and justifies the necessity of applying information technologies for implementation of managerial and organizational activities of schoolteacher. The article introduces the following levels of informational and communicative competence of schoolteachers. Low level of competence: Basic knowledge, skills and experience in application of ICT, skill of using ICT means in information analytical activities. Medium level of competence: Knowledge, skills and experience with ICT tools that allow using these tools independently in organizational, managerial, technological and information analytical activity by means of teaching materials that define the procedure and methods of using ICT means during the performance of an activity. High level of competence: Knowledge, skills and experience with ICT tools that allow analyzing, independently selecting and applying ICT means for organizational, managerial, technological and information analytical activities, including defining new methods for solution of professional tasks. Meanwhile, from analysis of the research results one may conclude that ICT competence of educational process organizers at schools has its specifics, while subject teachers, teaching staff, methodologists differ by ICT competence from other categories of educators. These differences are primarily related to functions exercised. It is known that the process of implementing ICT proceed at practically every level starting from municipal educational institutions to federal sector-wide programs. The developed recommendations for use of information technologies in organization and performance of managerial activities of a schoolteacher may be of use to general schoolteachers.

Keywords: ICT, competence, educator, implementation, technologies, means.

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1. Introduction

Informatization of education is a component of the information society development and supposes use of information and communication technologies (ICT) in both management and organization of educational process in the educational institutions. Application of ICT means in organizing the work of general education institutions allows achieving certain advantages, among them:

- Increased efficiency of the educational process,
- Accounting of results of completed activities in management,
- Making the most efficient managerial decisions,
- More objective assessment of activities of teachers and pupils,
- Increased efficiency of management of cognitive activity of pupils,
- Improved performance of education by making it possible to take more justified and practical measures,
- Resource saving in: Material, resources, human resources,
- Free time,
- access time to information of the educational organization,
- Routine work, etc.

The National Doctrine of Education in the Russian Federation up to 2025, in its program of pedagogic education upgrade for the years 2014-2017 states an important role that Internet technologies play in bringing the system of professional pedagogic training in conformance with the latest development of pedagogical theory and Practice (RF Government, 2000).

Currently, there is a trend for development of professional functions of a teacher and an orientation towards their competence in learning and cognitive activities. In the context of innovative transformations currently happening in the system of general education, a modern teacher shall be a qualified, competitive, responsible specialist that may navigate freely in their professional and interdisciplinary fields, having mastered new teaching ideas, information and communication technologies, capable of self-perfection, self-education and professional development. An essential component of teaching is development of personal qualities of a teacher, organizing skills and proficiency in efficient planning of the educational process.

The problems in forming ICT competences in educational process organizers have been studied by many methodology scholars: Robert (2008), Matros (2005), Vezirov (2018), and others. In the context of informatization of education, teacher's demand for information necessary for ensuring efficient educational and managerial activity skyrocketed. Information technology has come to the fore and importance of training teachers in efficient use of this technologies is constantly growing.

Cost of computing equipment should be noted among the problems of forming ICT competence of educational process organizers in school. "Today, hardware is no longer the only contributor to this cost – software represents a significant share of computing equipment expenses, especially, if course development is factored in".

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2. Problem Statement

Requirements to knowledge and skills of school graduates are analyzed in the context of their preparedness to life in the information society. This would require each educational institution to organize a modern model of information society, that is, information educational environment (IEE).

Information educational environment is “a complex of elements surrounding information system, influencing it and the set of software and hardware solutions, information communication networks, organizational and methodological elements...”.

Information communication technologies is a generalized concept that includes devices, means, methods and algorithms of information processing. The most important modern information communication device is computer provided with relevant software, means of telecommunication in complex with information present. ICT competence of education (either regular teacher or educational process organizer) is understood as targeted efficient use of technical knowledge and skills in the process of educational activity.

Recent psychological and pedagogical studies use two concepts, ICT literacy and ICT competence, which shall be clearly differentiated.

ICT literacy is understood as knowledge about personal computer, software products, their functions and capabilities, as well as knowledge of existence of computer networks (including the Internet) and various professional communities on the networks.

ICT competence of a teacher includes not only knowledge about personal computer and skills in using various information tools, but also efficient application of information technologies in educational activity.

Consequently, ICT competence assumes existence of an active, efficient component. It should be noted that recently ICT competence has become one of the main indicators of professionalism of modern educators.

Scholars highlight three main aspects in the ICT competence of education: *focus, knowledge, skills*.

Focus means considering ICT as a new paradigm of education, aimed at teaching students that play a role of subjects in the information society.

Knowledge means a high level of computer literacy.

Skills mean efficient application of ICT in educational activity to solve professional tasks.

Nowadays, the following requirements are specified for educators:

– active implementation of information educational formulating systems, a common collection of digital educational resources (DER);

– active and wide use of additional digital equipment (interactive whiteboards, video, photo and multimedia equipment) on behalf of educators;

– formations of educator’s professional presentation skills involving use of interactive information educational environments and digital (electronic) educational resources;

– application of ICT in management of educational process: electronic class registers, student data bases, digital collections of educational resources.

In general, ICT competence of educators shall provide new approaches and paradigms of education related to the goals of educational process.

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In 2011, UNESCO published recommendations that generalized all the international experience and approaches to the structure of professional ICT competence of educators (UNESCO, 2008).

In the UNESCO recommendations for ICT, teacher competence outlines necessary levels of information technologies, according to them educators shall be capable of:

– developing digital educational resources, constructing educational environment;

– using ICT as a tool to form capabilities to obtain knowledge and develop critical thinking in students;

– support reflection as a necessary component of educational work.

Meanwhile, from analysis of the research results one may conclude that ICT competence of educational process organizers at schools has its specifics, and thus subject teachers, teaching staff, methodologists differ by ICT competence from other categories of educators. These differences are primarily related to functions exercised.

For example, information technological competences of educational process organizers shall be understood as knowledge, skill and experience in applying ICT tools to:

– organizational and managerial activities, planning of educational process, monitoring over completing of goals, objectives and plans on behalf of employees of educational institutions;

– technological activity while gathering, collecting, storing and processing information obtained, information analytical work in analysis of information data on educational activity.

It is known that the process of implementing ICT proceed at practically every level starting from municipal educational institutions to federal sector-wide programs. In addition, each region has its own program for informatization of education. At the same time, certain experience has been accumulated in various regions in advanced training of educators that requires generalization to transfer the most efficient programs to a wider audience (Matros, 2005; Khudoverdova, 2006). This is especially true for manager training courses, as the managers determine the need of certain institutions in informatization, determine the level of ICT use in IT on behalf of teachers and are largely responsible for construction and efficient functioning of information educational environment in an educational institution (Vezirov, 2018; Sadulaeva & Abdullayv, 2018; Abdullaev & Sadulaeva, 2017).

Application of ICT means forming the foundation of informatization of teacher's labor allows automating and as a result improving efficiency of the following educator's activities:

– calculation of teaching loads for a given period of time;

– planning of classes and out-of-school activities in accordance with requirements to academic loads of pupils;

– search of the most current studying materials and teaching means, in demand within the framework of methodological system of school pupil training being implemented;

– accounting of academic progress and results of each training session, where traditional class register is substituted with its electronic counterpart that contains personal data on each student, personalized attendance and academic results ;

– planning of school subjects, application of teaching methods and means;

– orientation towards educational learning material accumulated by a teacher during the educational activity;

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– monitoring and measurement of training efficiency of each student;

– timely informing of parents and school administration on every issue arising during the training and education of school pupils;

– accounting and preparation of report documents.

Application of Internet technologies is quite timely, as they are linked to realistic possibilities of obtaining new knowledge by means of more efficient organization of cognitive activity, use of qualitatively new forms and methods in teaching.

3. Research Questions

Research subject: ICT competence of school teacher.

4. Purpose of the Study

Research objective: studying possibilities for developing ICT competence of school teacher.

5. Research Methods

This work used the following **research methods**: Studying scholarly works in pedagogy authored by Russian and foreign scholars, works in teaching methods, educational process organization, dedicated to issues in management of educational process; analysis of educational documentation; pedagogic observation; examination of experience in application of information technologies in managerial activities of teachers during teaching practice.

6. Findings

Recapitulating, let us determine some directions in organizational and managerial activities of schoolteachers that use information technologies:

1. Implementation of ICTs directly in the educational process (learning activity of pupils): Creating conditions for development of educational environment for student-centered education, where ICTs are used to meet the personal needs of pupils; implementation and use of software solutions intended to help in conducting learning events, etc.

2. Application of information resources and technologies in organizational decision-making: creation of data banks on pupils that allow solving various tasks (from quick search for pupil's data to generating a summary report on the social structure of a range of school pupils); use of information systems assisting in distribution of teaching loads among teachers, making up a lesson schedule, accounting and analysis of academic progress of pupils, etc.

3. Use of computer technologies for planning and quality monitoring of educational process: Knowledge diagnostics system, computerized testing, software for processing the obtained diagnostic data.

4. Use of ICT to improve the quality of teaching (application of ICT in preparation of and giving lessons).

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5. Use of ICT for information exchange and organization of common acitvity of colleagues, parents, pupils, creation of professional communities (including network-based) and participation in communities that facilitate and stimulate use of information technologies on behalf of teachers to increase the efficiency of their labor.

6. Continuous improvement of one's professional qualification: Use of ICT and network resources to get acquainted with the latest information and communication technologies in the context of their application to educational process and its management.

7. Use of ICT for improvement of managerial activity: Harmonization and merger of syllabuses, development plans and innovation plans for more efficient use of resources.

8. Continuous improvement of technologies used in managing the educational process, upgrade and replacement.

9. Participation in the process of school informatization.

Organizational activity of teacher is understood as “continuous sequence of actions performed by a subject of management resulting in formation and change in the image of managed object, establishment of a goal of joint activity, defining methods for achieving these goals, distributing works between participants and integration of their efforts”.

While implementing lesson organization, a teacher is involved in: planning a program of teaching activities; determining an order of search of information necessary for performance of that activity; distributing rights, responsibilities and organizational authority between participants of the educational process; sourcing resources for implementation of the educational process, assessing the achieved result, analyzing and rectifying negative deviations.

Application of ICT means during the lessons increase the efficiency of time usage, stimulates pupils to learning, increases their motivation, simplifies differentiation in learning and knowledge monitoring system and forms ICT competence of an educator.

1. The principal task of school is to create such a system of education that caters to the needs of each individual pupil in accordance with their propensity, interests and abilities. To achieve this goal it is necessary to radically change the paradigm of pupil and teacher in the educational process. A new paradigm is that a student shall learn independently, while a teacher aspires to perform motivational control of their learning, that is, motivate, organize, consult, control.

2. Solution of the stated problem requires such a technology that would provide the student with development of independence, collectivism, skill in independent control of learning and cognitive activity, while providing the teacher with a skill to control such activity. Information technology is exactly that.

3. Information technologies in the modern school are used in planning and managing teacher activities, communication with parents, as well as for creation of teacher portfolio, which is a tool in teacher's managerial activity.

4. Electronic portfolio of a modern teacher is a means for monitoring of their professional development that reflects the level of competence and competitiveness, as well as a collection of didactic and methodological materials intended for management of educational process in school.

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7. Conclusion

During the research we discussed features of schoolteacher activities in the area of educational process organization using information and communication technologies. The authors have studied possibilities to use information technologies in the process of planning the educational process and established that application of ICT means on behalf of the educational process organizers facilitates the most efficient management of learning activities of pupils and gives a possibility to analyze and diagnose educational results, as well as taking justified measures to increase the knowledge level, efficiency and knowledge quality, monitor educational process throughout the levels of school education and keep in contact with parents. Recommendations have been developed for application of information technologies in an organization and implementation of teacher managerial activities: planning and administering of such activity, work with parents, creation of electronic teacher portfolio as means to visualize organizational activities by presenting teachers with the electronic portfolio technology, Portfolio business game or a Personal Achievements file.

It should be noted that mastering of modern information and communication technologies is an important prerequisite for preparation of future educators to organization of educational process.

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